2050
THYRATRON
GAS TETRODE

GENERAL DATA

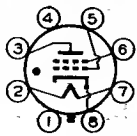
Electrical:

	Min.	Av.	Max.	
Heater, for Unipotential Cathode:				
Voltage (AC or DC)	5.7	6.3	6.9	volts
Current, with heater volts = 6.3	0.54	0.60	0.66	amp
Cathode:				
Heating Time, prior to tube conduction	10	–	–	sec
Direct Interelectrode Capacitances (Approx.):●				
Grid No.1 to Anode			0.26	μμf
Input			4.2	μμf
Output			3.6	μμf
Ionization Time (Approx.):				
For conditions: dc anode volts = 100; grid-No.1 square-pulse volts = 50; and peak anode amp. during conduction = 1.0			0.5	μsec
Deionization Time (Approx.):				
For conditions: dc anode volts = 125; grid-No.1 volts = -250; grid-No.1 resistor (ohms) = 1000; dc anode amp. = 0.1			50	μsec
For conditions: dc anode volts = 125; grid-No.1 volts = -10; grid-No.1 resistor (ohms) = 1000; dc anode amp. = 0.1			100	μsec
Maximum Critical Grid Current, with ac anode-supply volts (rms) = 460, and average anode amp. = 0.1			0.5	μamp
Tube Voltage Drop (Approx.)			8	volts
Grid-No.1 Control Ratio (Approx.) with grid-No.1 resistor (megohms) = 0; grid-No.2 volts = 0			250	
Grid-No.2 Control Ratio (Approx.) with grid-No.1 resistor (megohms) = 0; grid-No.2 resistor (megohms) = 0; grid-No.1 volts = 0			800	

● Without external shield.

Mechanical:

Mounting Position	Any
Maximum Overall Length	4-1/8"
Maximum Seated Length	3-9/16"
Maximum Diameter	1-9/16"
Bulb	ST-12
Base	Small-Shell Octal 8-Pin
Basing Designation for BOTTOM VIEW	6BS



Pin 1 – No Connection
Pin 2 – Heater
Pin 3 – Anode
Pin 4 – No Connection
Pin 5 – Grid No.1
Pin 6 – Grid No.2
Pin 7 – Heater
Pin 8 – Cathode

← Indicates a change.

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RELAY and GRID-CONTROLLED RECTIFIER SERVICE

Maximum Ratings, *Absolute Values*:

PEAK ANODE VOLTAGE:			
Forward	180 max.	650 max.	volts
Inverse	360 max.	1300 max.	volts
GRID-No.2 (SHIELD-GRID) VOLTAGE:			
Peak, before anode conduction	−100 max.	−100 max.	volts
Average, during anode conduction■	−10 max.	−10 max.	volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:			
Peak, before anode conduction	−250 max.	−250 max.	volts
Average, during anode conduction■	−10 max.	−10 max.	volts
CATHODE CURRENT:			
Peak	1.0 max.	1.0 max.	amp
Average■	0.2 max.	0.1 max.	amp
Surge, for duration of 0.1 sec. max.	10 max.	10 max.	amp
→ GRID-No.2 CURRENT:			
Average■	+0.01 max.	+0.01 max.	amp
→ GRID-No.1 CURRENT:			
Average■	+0.01 max.	+0.01 max.	amp
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	100 max.	100 max.	volts
Heater positive with respect to cathode	25 max.	25 max.	volts
AMBIENT TEMPERATURE RANGE	−75 to +90	−75 to +90	°C

→ Typical Operating Conditions for Relay Service:

RMS Anode Voltage	117	400	volts
Grid-No.2 Voltage	0	0	volts
RMS Grid-No.1 Bias Voltage	5□	−	volts
DC Grid-No.1 Bias Voltage	−	−6	volts
Peak Grid-No.1 Signal Voltage	5	6	volts
Grid-No.1-Circuit Resistance	1.0	1.0	megohm
Anode-Circuit Resistance#	1200	2000	ohms

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For average anode current below 0.1 amp.	10 max.	megohms
For average anode current above 0.1 amp.	2 max.	megohms

■ Avereged over any interval of 30 sec. max.

□ Approximately 180° out of phase with the anode voltage.

Sufficient resistance, including the tube load, must be used under any conditions of operation to prevent exceeding the current ratings.

→ Indicates a change.

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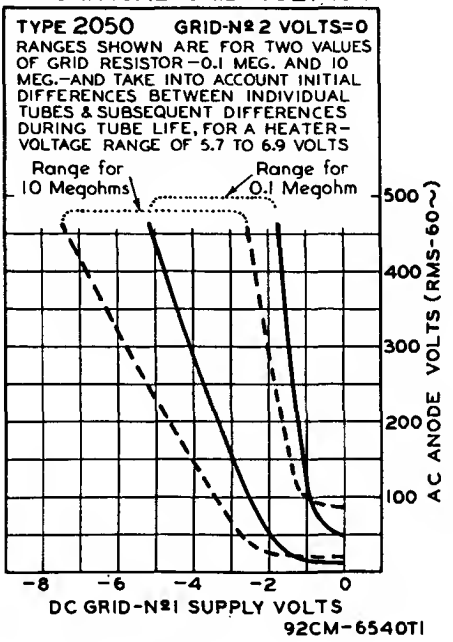
OPERATIONAL RANGE OF CRITICAL GRID VOLTAGE



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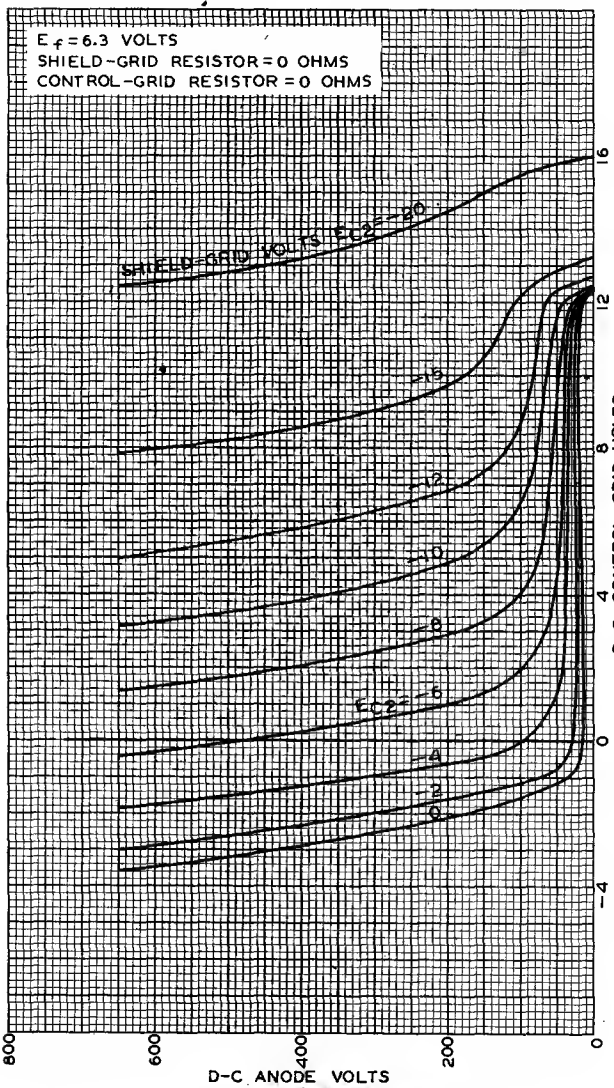
AVERAGE CONTROL CHARACTERISTICS



MAY 3, 1944

RCA VICTOR DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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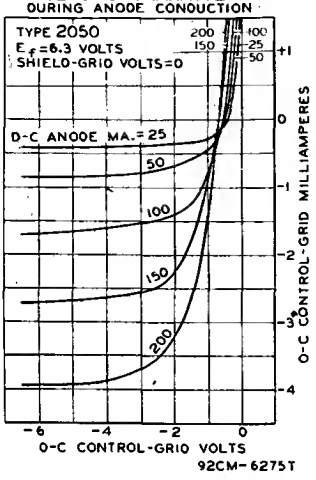
AVERAGE GRID CHARACTERISTICS
DURING ANODE CONDUCTION



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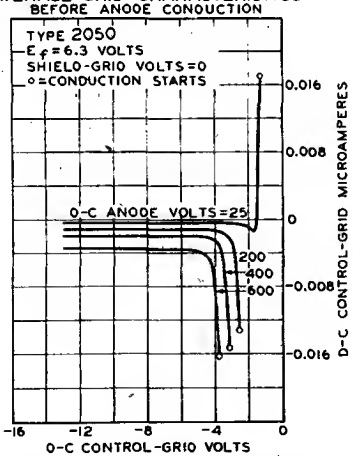
AVERAGE GRID CHARACTERISTICS
BEFORE ANODE CONDUCTION



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